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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,688	01/21/2004	David Tyvoll	200314080-1	5274
22879	7590	04/06/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			MILLER, JONATHAN R	
			ART UNIT	PAPER NUMBER
			3653	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,688	<b>Applicant(s)</b> TYVOLL ET AL.	
	<b>Examiner</b> Jonathan R. Miller	<b>Art Unit</b> 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 1/18/06.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-21 and 41-52 is/are pending in the application.
- 4a) Of the above claim(s) 15-21, 41-50 and 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-13 and 51, drawn to a sorting device utilizing dielectrophoresis, classified in class 209, subclass 128.
  - II. Claims 15-21 and 52, drawn to a sorting device utilizing a piezoelectric mechanism and/or a heater mechanism, classified in class 209, subclass 576.
  - III. Claims 41-50, drawn to a sorting device in communication with a microplate, classified in class 209, subclass 706.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as thawing particles through use of the heater mechanism. See MPEP § 806.05(d).
3. Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination III has separate utility such as storing and combining cells into a single microplate. See MPEP § 806.05(d).
4. Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not

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obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as thawing particles through use of the heater mechanism. See MPEP § 806.05(d).

5. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Newly submitted claims 15-21, 41-50 and 52 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: they are subcombinations useable together as stated above

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 15-21, 41-50 and 52 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-13 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quake et al. in view of Blankenstein. Quake et al. discloses an input reservoir configured to hold a mixture of first particles and one or more second particles (24); a transport mechanism configured to move portions of the mixture in parallel from the input reservoir; and a plurality of sorter units (col. 8, lines 24+) in fluid communication with the input reservoir and configured to receive the portions of the mixture, each sorter unit being configured to selectively move at least one second particle, if received in one of the portions, from a path followed by first particles received in the one portion so that the at least second particle follows a different path (col. 8, lines 24+). Quake et al. further discloses a transport mechanism is configured to move particles by electrophoresis (col. 8, lines 28+). Quake et al. fails to disclose the transport mechanism is configured to move particles by dielectrophoresis. Blankenstein discloses a transport mechanism is configured to move particles by dielectrophoresis (col. 14, lines 55+). At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilize the transport dielectrophoresis transport mechanism disclosed by Blankenstein to achieve a separation (col. 14, lines 55+). Blankenstein discloses both electrophoretic and dielectrophoretic separation and the interchangeability of both techniques to achieve particle separation. Quake et al. and Blankenstein are analogous art as they are from the same field of endeavor: cell separators.
10. With regards to claim 2, Quake et al. further discloses a manifold configured to place the input reservoir in fluid communication with the sorter units (col. 7, lines 11+).
11. With regards to claim 3, Quake et al. further discloses the manifold defines a conduit network that branches as it extends from the input reservoir to the sorter units (col. 7, lines 11+).

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12. With regards to claim 4, Quake et al. further discloses the transport mechanism is configured to provide continuous transport of the portions of the mixture, and wherein each sorter unit includes a pulse-activated transport mechanism configured to selectively move the at least one second particle (col. 8, lines 28+).

13. With regards to claim 5, Quake et al. further discloses the mixture is disposed in a fluid, and wherein the transport mechanism is configured to apply at least one of a positive and a negative pressure to the fluid (col. 2, lines 63+).

14. With regards to claim 6, Quake et al. further discloses the transport mechanism is configured to apply a negative pressure to the fluid downstream of the plurality of sorter units (col. 2, lines 63+).

15. With regards to claim 7, Quake et al. further discloses one or more receiver structures in fluid communication with the plurality of sorter units and downstream thereof (col. 7, lines 21+).

16. With regards to claim 8, Quake et al. further discloses the one or more receiver structures include a single receiver configured to receive first particles from each of the sorter units (col. 7, lines 21+).

17. With regards to claim 9, Quake et al. further discloses the transport mechanism is configured to apply a positive pressure to the fluid in the input reservoir (col. 2, lines 63+).

18. With regards to claim 10, Quake et al. further discloses the one or receiver structures include a single receiver configured to receive the at least one second particle from at least two of the plurality of sorter units (col. 7, lines 21+).

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19. With regards to claim 11, Quake et al. further discloses each sorter unit is in fluid communication with a different receiver structure so that the at least one second particle moved by different sorter units are placed in different receiver structures (col. 7, lines 21+).

20. With regards to claim 12, Quake et al. further discloses the different receiver structures are wells of a microplate (col. 7, lines 39+).

21. With regards to claim 13, Quake et al. further discloses the mixture of first particles and one or more second particles is a mixture of different types of cells (col. 5, lines 39+).

22. With regards to claim 51, Quake et al. fails to disclose the dielectrophoresis includes traveling wave dielectrophoresis. Blankenstein discloses the dielectrophoresis includes traveling wave dielectrophoresis (col. 18, lines 65+).

### ***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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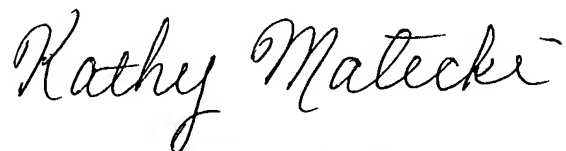
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan R. Miller whose telephone number is (571) 272-6940. The examiner can normally be reached on M-F: 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy A. Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jrm



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